

NUCLEAR DIVISION NEWS

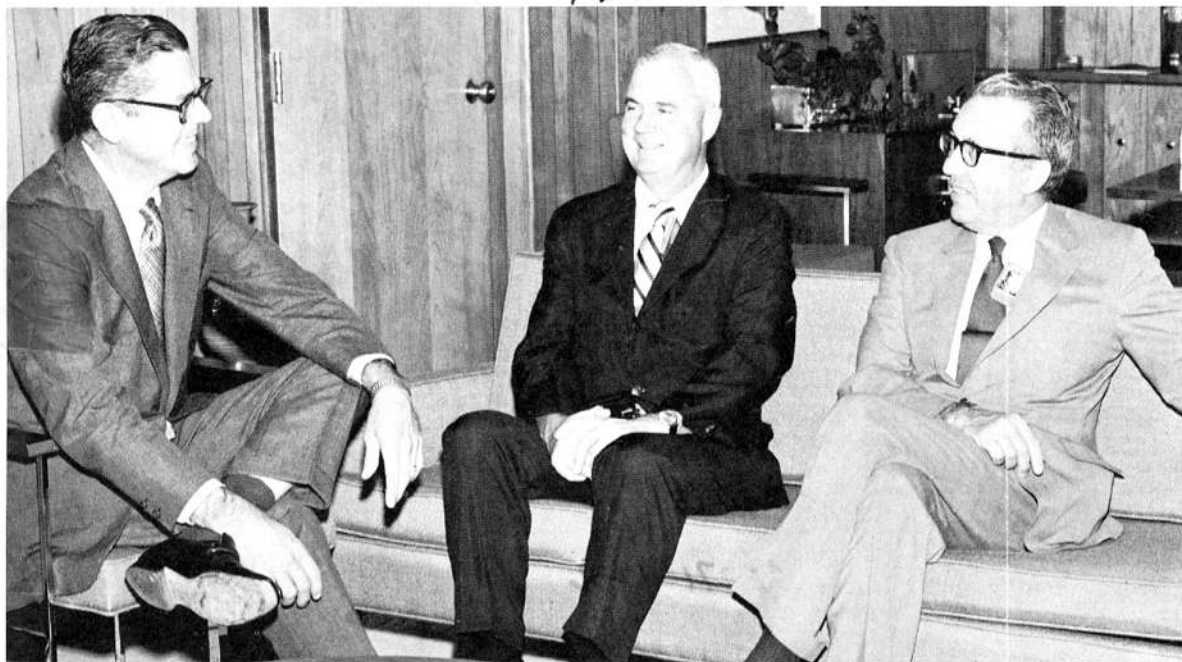
UNION
CARBIDE

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 2 — No. 16

Thursday, September 2, 1971

14/245



VISIT OAK RIDGE FACILITIES — James C. Malone, group vice president for Corporate Development, visited Oak Ridge recently where he was briefed on the various Nuclear Division programs. Accompanying Malone was John A. Swartout, vice president for development who has overall responsibilities for the Nuclear Division and Corporate Technology. From left are Roger F. Hibbs, president of the Nuclear Division; Malone; and Swartout.

Society Seeks Engineers To Counsel Area Students in Related Disciplines

A call for engineers. Members of the Oak Ridge Chapter of the Tennessee Society of Professional Engineers (TSPE), in cooperation with the state group, are recruiting advisors to serve in some 23 high schools and five junior high schools in eight area counties.

Prospective advisors should be practicing engineers but may come from any of the engineering disciplines. Approximately 10 additional advisors are needed this year.

Advisors will work with high school guidance counselors in a two-fold purpose: (1) to inform students about the engineering profession in its many facets, and (2) to inform students about the related programs for training engineering technologists and engineering technicians.

Seminars, Talks

Information will be presented to students in seminars, assembly talks, talks to smaller groups, conferences with individuals and in after-school clubs.

The entire program is being sponsored by the Tennessee Engineering Careers Committee of TSPE. B. B. Klima, Chemical Technology Division, is coordinator for the Oak Ridge area. He is responsible for carrying out the program in Anderson, Cumberland, Campbell, Fentress, Morgan, Pickett, Roane and Scott counties.

Concerning the program, Klima says: "We realize that the fields of engineering are becoming more complex, and we feel that the professional engineers should bear a share in providing a continuous supply of engineers to staff this

complex world our children are going to find themselves living in as adults."

Last Year's Success

Much success was realized during last year's program, as many area students were contacted and counseled. Professional engineers participated in several career days, including programs at Clinton High School and Oliver Springs Junior High School. In other schools like York Institute the engineers counseled with each student. In many instances the engineers were the first of their profession to counsel with the students.

The basic program will continue during the 1971-72 school year with an addition, a scholarship program.

Interested engineers who would like to serve as advisors should contact Klima, 316 East Drive, Oak Ridge, at the earliest opportunity. His plant extension is 3-1148.

Society Plans Bus To Attend Tool Fair

The Knoxville-Oak Ridge Chapter of the Society of Manufacturing Engineers is planning to charter a bus, free to members, to the Southeastern Engineering Conference and Tool Exposition in Atlanta, Ga., October 19-21.

Approximately 7,000 manufacturing engineers and executives from a seven-state area are expected at the conference. It will be held in Convention Hall, 395 Piedmont Ave., Atlanta. Approximately 100 companies will exhibit their products in "working" displays. The equipment is valued at more than \$2.5 million.

The planned bus will hold 35 to 40 passengers, and reservations will go on a "first-come, first-served" basis. Information and reservations may be obtained through Jim Pickell, extension 3-3073.

TAT, UT, Roane State College Will Coordinate Curriculum

The Training and Technology facilities at the Oak Ridge Y-12 Plant will be utilized by The University of Tennessee and Roane State Community College this fall to conduct undergraduate college credit courses in the afternoon and evening hours.

The classes are being offered for the convenience of Nuclear Division personnel and other employees of the U.S. Atomic Energy Commission Oak Ridge complex who need the course to fulfill requirements toward a degree.

Over 100 persons are expected to enroll in the nine courses offered during the Fall quarter. Enrollment in each class is limited to approximately 20 persons.

Enrollment for the UT courses will be held September 19-20, 5:15 to 8 p.m., at the Oak Ridge High School and classes will begin about September 22. Costs for UT courses are \$15 per credit hour.

UT courses and their schedules are: Machining 1220 (machine shop practice), Thursdays, 1 p.m. and 3:30 p.m.; Machining 4090 (numerical control), Mondays, 5 p.m.; Educational Psychology 3810 (adolescence), Mondays, 5 p.m.; Technical Physical Testing 4043, Thursdays, 5 p.m.; Industrial Drafting 4070, Tuesdays, 5 p.m.; and English 2111, Wednesdays, 5 p.m. Each course is worth three credit hours toward a degree.

Roane State Community College proposed courses to be offered are: Introduction to Electronics (two credit hours), Electric Circuit Fundamentals, Direct Current (six credit hours) and Applied Mathematics (three credit hours). The enrollment cost will be \$6 per credit hour. Schedules for these classes have not been set.

Persons desiring to enroll in the courses offered by Roane State should contact Ralph Pearson or George Price, extension 3-5493, for the time and date. These three courses are tentatively scheduled to begin September 22.

The college credit courses will not interfere with the regular Training and Technology program conducted at Y-12 since 1936 for underemployed and disadvantaged persons. Approximately 200 persons normally are enrolled in this program at any given time.

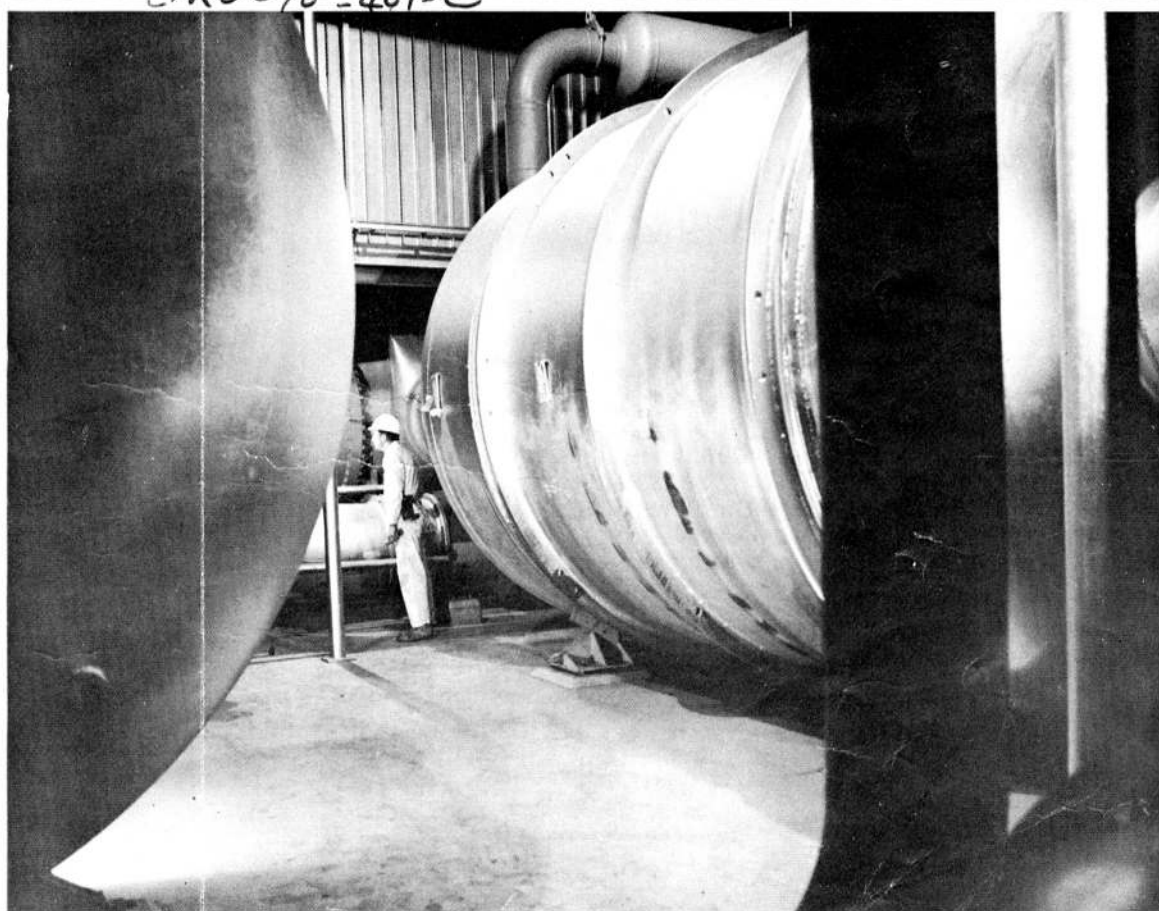
AIChE Sets 3-Day Seminar Next Week

The Knoxville-Oak Ridge Chapter of the American Institute of Chemical Engineers has chosen the topic "Energy, Society, and the Engineer," for the annual Fall Symposium theme. It will be held September 13-15 from 7 to 10 p.m. in the West Wing of the Oak Ridge Associated Universities Special Training Division building on Laboratory Road, Oak Ridge.

Monday, September 13 will feature James A. Lane, AECOP, discussing "The Fossil Fuel Outlook;" Eugene C. Hise, ORNL-NSF, speaking on "Geothermal Energy;" and Robert P. Milford, ORGDP, speaking on "Coal Gasification."

Tuesday, September 14's subject will be "Social Planning in the Energy Picture," and will include a talk by Edmund Nephew, ORNL-NSF, on "Strip Mining and the Social Costs Involved," and H. E. Goeller, ORNL, on "Long

(Continued on Page 8)



GASEOUS DIFFUSION CELL—This recently-released photograph of a cell in the Oak Ridge Gaseous Diffusion Plant gives a graphic idea of the magnitude of the equipment needed to separate uranium-235 from natural uranium. The enriched uranium is being used as the fuel in nuclear power generating facilities throughout the world.

LABOR DAY

Monday, September 6, is an official holiday for Nuclear Division employees.

All four plants will be closed and only those whose presence is required for continuous operation or security will be required to be at work on Labor Day.

ORGDP's Overlook Brings Tourists in from Every Corner of Globe

The Visitor's Overlook at the Oak Ridge Gaseous Diffusion Plant is bracing for another holiday weekend. (The last one we had . . . the Fourth of July . . . saw more than 400 tourists visiting.)

Attendance is up by 17 percent over last year's figure, reflecting the increased interest in the important role that nuclear fuel production and utilization will play in alleviating the world's energy shortage.

A young school teacher from St. Genevieve, Mo., was seen snapping pictures for a natural science class back in his hometown. Although Jim Swank is primarily a biology teacher, he does teach a physical science class at St. Genevieve High.

Area Campers

A family of campers expressed interest in the history of the entire Oak Ridge area, dating from the war years, until the present day. They were going to visit the Atomic Energy Museum in Oak Ridge, the Graphite Reactor at Oak Ridge National Laboratory, and other spots of interest locally. The Charles Small family, Bloomington, Ind., came away impressed by the vastness of the ORGDP complex. "You'd never imagine a plant that big!"

More than 7,000 visitors, representing each of the 50 states and 29 foreign countries, visited the Overlook during the first six months of this year. The log book for registering guests fairly bulges with names of small towns from all over the country.

Foreign Visitors

Foreign guests included citizens from Austria, Australia, Belgium, Brazil, Canada, Chili, Colombia,

Costa Rica, Denmark, Finland, France, Great Britain, Hungary, India, Iran, Italy, Japan, Korea, Malaysia, Mexico, The Netherlands, Peru, Rumania, Scotland, Spain, Sweden, Switzerland, Russia, and West Germany.

"So that's where our power comes from?" asked one startled visitor. "The atom is so little, and yet that place looks so big," said another.

The modernized overlook facility affords the visitor a strategic, panoramic view of the ORGDP complex while taped messages, aerial photographs, and colorful dioramas explain — and describe plant operations and functions. Other special features describe the role of gaseous diffusion plants, as well as other AEC facilities operated by Union Carbide Nuclear Division in meeting the nation's energy needs.

AEC Senior Review Board Feted at 25th Anniversary

The U. S. Atomic Energy Commission's Committee of Senior Reviewers celebrated a quarter century of service recently. A banquet was held in Washington, D. C., marking the event. It was hosted by Glenn T. Seaborg, chairman of the USAEC. Seaborg played a significant role in establishing AEC policies for classification and declassification of information of extreme importance.

Paul Vanstrum, vice president of the Nuclear Division of Union Carbide Corporation, is on the Committee of Senior Reviewers, along with other leaders from other atomic energy installations from across the country.



LOCAL TOURIST — Robert W. Driggers, an employee at Beta-Tek, Inc., Harriman, left, brought visiting relatives to the Overlook for a peek at part of the uranium processing operations here. With him are Caroline Bullard, and her daughter, Gina, from Bennettsville, S. C., and Carole Driggers and her son Keith, from Omaha, Neb.

NUCLEAR DIVISION NEWS



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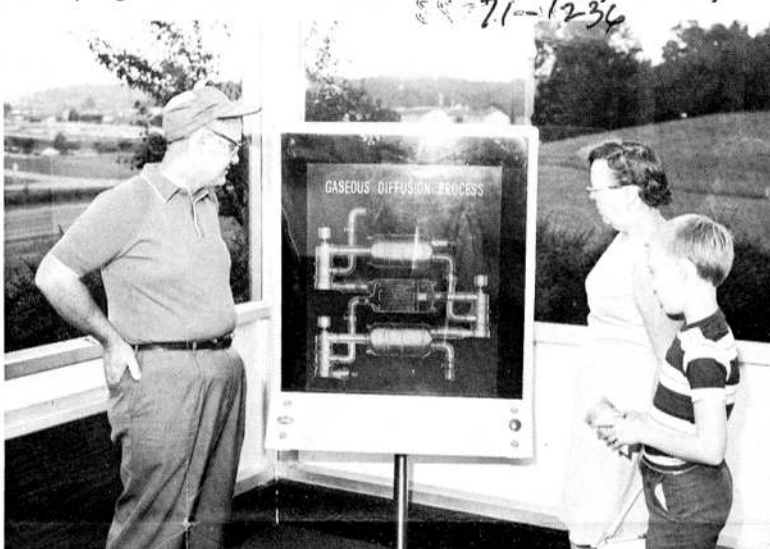
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VISITING CAMPERS — The Paul Kline family, from Frederickburg, Md., were enthusiastic about the enormity and vastness of the Oak Ridge Gaseous Diffusion Plant. Mrs. Hilda Clem, Mrs. Kline's mother, right, was visiting with her folks, as well as Jay, the young Kline son. They enjoyed camping the sites in Tennessee and Kentucky recently.



BUDDING YOUNG SCIENTIST — "Dale is the scientist of the family," said Charles Small, Bloomington, Ind., as he, his wife and son paused at the Overlook recently for a bird's-eye view of ORGDP. Small is an electronic technician with RCA in Bloomington and he was camping in the Smokies with his family, when he decided to motor over to see Oak Ridge. They planned a visit to the Oak Ridge National Laboratory's Graphite Reactor and the Atomic Energy Museum in Oak Ridge, before leaving the area.



PHOTOGRAPH OF PHOTOGRAPHER — Biology teacher Jim Swank, St. Genevieve, Mo., was caught in the act of photographing the panoramic view of ORGDP recently on a summer afternoon. The young teacher wanted to take back slides for a physical science class at St. Genevieve. He was motoring through Tennessee on his way to Norfolk, Va.

Ridge NSA Slates Meet September 10

Approximately 300 persons are expected to attend a "Seminar for Career Secretaries," to be held September 10 starting at 12:30 p.m., at the Oak Ridge Civic Center. The seminar is sponsored by the Oak Ridge Chapter of the National Secretaries Association.

Principal speakers will be Robert W. Carney, professor of management of Georgia Institute of Technology, and William S. Akers, Jr., training director at the Oak Ridge Y-12 Plant. Carney will speak on "Interpersonal Relations," and Akers will discuss "Communications in a Productive Environment."

The seminar will open with a welcome by Mrs. Jo Acres, president of the Oak Ridge Chapter of NSA. Mabel E. Tyler, Y-12, is seminar chairman.

Meanwhile, the Paducah-Kentucky Lake Chapter of NSA announces plans to honor their new CPSes, September 24, at 7 p.m. at the Paducah Country Club. Any NSA members from this area are welcome to attend, and reservations may be made through September 15.

Roane Schedule

A new college will open in Harriman in September which is close enough for many family members of Carbide employees to attend. Between now and registration on September 20, there is still time to apply for enrollment in Roane State Community College. If advisors at the college can assist, they are available from Mondays through Fridays at Fairmont School in South Harriman. Classes the first year will be in Fairmont School just off US-27 in South Harriman.

Allison, Conner, and White Are Recent Promotions Here

71-1275

71-1274



Thomas J. Allison

Oak Ridge Gaseous Diffusion Plant has recently promoted Thomas J. Allison, Gary D. Conner and John T. White.

Thomas J. Allison

Thomas J. Allison was first employed at Y-12 in 1960 and transferred to ORGDP in March, 1965. He was named a planner and estimator in the Maintenance Engineering Department, Fabrication and Maintenance Division.

He is a native of Madisonville, and attended schools there. He is married to the former Jean Bradley, and they live on Route 4, near Madisonville. They have two sons, Gerald and Clint.

Allison's outside interests include farming, fishing and bowling.

Gary D. Conner

Gary D. Conner has been named an accounting clerk in the Toll Enrichment Facility of the Operations Division. He was first employed in the Computing Center at Oak Ridge National Laboratory in September, 1969, and later transferred to ORGDP.

Conner was born and educated in Lenoir City. He is married to



Gary D. Conner

71-1273



John T. White

the former Patricia Sherwood, and they have two children, Richard and Angela. They live in Lenoir City on Route 1.

Conner's time off the job is devoted to being a full-time student.

Shift Operations' Smith Dies Aug. 4 in Knoxville

Sam Wiley Smith, a fire driver in the Shift Operations and Security Division, died in the University of Tennessee Memorial Hospital on August 4, from complications following a gunshot wound by an undisclosed assailant in a Knoxville parking lot July 17.



Mr. Smith was originally employed here in February of 1946. Before coming to ORGDP, he served more than three years in the U.S. Army and, prior to his military service, had worked with the Tennessee Valley Authority.

Immediate survivors include his wife, the former Olivia Armstrong, at the Smith home, 3019 Prentice Avenue, Knoxville; three sons, David, Detroit, Mich.; Samuel and Clifford, Knoxville; and two daughters, Virginia Edwards, Medina, Ohio; and Margaret, Knoxville.

30 Years Service

C. F. Hale

at UT which requires most of his waking hours. For diversion, he tries to get in an occasional game of golf.

John T. White

James T. White was named a maintenance foreman recently. He was first employed here in March, 1954. He served two years in the U.S. Navy before coming here.

A native of Cave Creek Community in Roane County, White attended Carson-Newman College and took a number of courses in electronics while in the Navy.

Mrs. White is the former Bessie E. McDaniel. They have two children, Tammy Kay and Mark Thomas, and live on Route 3, Scenic Drive, near Lenoir City.

In his spare time White likes to deal in real estate, particularly lakeside property.

Oak Ridge Gaseous Diffusion Plant

ORGDP Editor Harold Mayberry
extension 3-3017

L. D. Crowe, R. E. Johnson, H. F. Lemons, Long-Time ORGDP Employees, Retiring

71-1262

71-1291



Crowe



Johnson

L. D. Crowe, R. E. Johnson, and H. F. Lemons entered retirement status on September 1.

Crowe

L. D. Crowe has been a lineman in the Power and Utilities Department, Fabrication and Maintenance Division, since his employment at K-25 in June, 1945. He had previously worked for Comstock-Bryant Contractors during the construction of the plant.

Crowe was born in Sinclair County, Ala., and attended public schools in Pine Forest County, Ala. He is married to the former Audrey E. Reeves of Leeds, Ala. They have a son, Robert C. Crowe, employed in the Technical Division at Y-12, who is presently attending UT on an AEC scholarship.

Future plans include a continuation of gardening and fishing.

The Crowes live at 132 California Avenue in Oak Ridge.

Johnson

Raymond Edward Johnson has been with the Janitor's Department, Fabrication and Maintenance Division. He was first hired in June, 1964. Before his employment here, he worked for the Knoxville Iron Company and the Southern Railroad in Knoxville.

Johnson is a native of Knoxville and attended Lonsdale and Moses schools there. He is married to the former Ruth White, also of Knoxville. They have a daughter, Mrs. Dorothy Wilmoth, whose husband works at Y-12, and five sons: Ray, in Baltimore, Md.; Kenneth, in McKinney, Tex.; Gene at ORNL; David in Atlanta; and Richard in Akron, Ohio.

Johnson's hobbies include cabinet-making and growing

flowers. He plans to continue with these hobbies and hopes to do some hunting, fishing, and traveling. The Johnsons live at 102 Vista Road in Oak Ridge.

Lemons

Hughy Franklin Lemons has been a material expeditor for the Carpenters in Fabrication and Maintenance. His continuous service date is October 2, 1944. Prior to his employment here, he worked for the Rockwood Hoisery Mill.

Lemons, a native Tennessean was born in Ten Mile and attended public schools in Rhea and Roane Counties. Mrs. Lemons is the former Willie Mae Jiles. They have a son, H. F., Jr., working in Cookeville, Tenn.

Lemons' primary outside interest is in gardening; he has prize-winning watermelons, tomatoes, etc. He says that he has plenty of lake frontage at their home on Route 1, Spring City, and hopes to do some fishing and "just plain sit in the shade for a while."

Gatlinburg Tournament

The challenging Gatlinburg Golf and Country Club will be the site of the last K-25 tournament of the current season, set for Saturday, September 11.

Golfers using electric carts are required to tee off before those who prefer to walk.

Starting times may be obtained in Room G-192, K-1001, on Tuesday, September 7. The new telephone number is 3-3017.

Ride Wanted

Ride wanted from Bull Run Steam Plant area to Portal two or four, day shift. O. T. Smith, phone 3-3576, home phone Claxton 945-2488.

Annual Barbecue-Hootenanny Slated At Clark Center, Saturday, October 2

The Annual K-25 Barbecue-Hootenanny will be held at the Clark Center Recreation Park on Saturday afternoon, October 2.

The Barbecue date is always set on the long days-off weekend for the super-barbecuers, most of them from A Shift who donate their time, starting the evening before, cooking, basting, and turning the meat over a slow bed of coals all night long. C. H. McIntyre, famous for his barbecuing skill, has again consented to coordinate the cooking of the meat.

In addition to the barbecue, the meal will consist of wieners, baked beans, cole slaw, potato chips, pickles, and cookies. The food will be served starting at 5 p.m.

Retiree Fred Johnson has agreed to join us to lead the Hootenanny Sing-Along.

The price of the tickets will be the same as last year — \$1.50 for adults, 75 cents for children 12 and under. This price includes everything — food and drinks.

The ticket sale will close on Monday, September 27, to allow the committee enough time to order the proper amount of food.

Tickets may be obtained from all divisional secretaries.

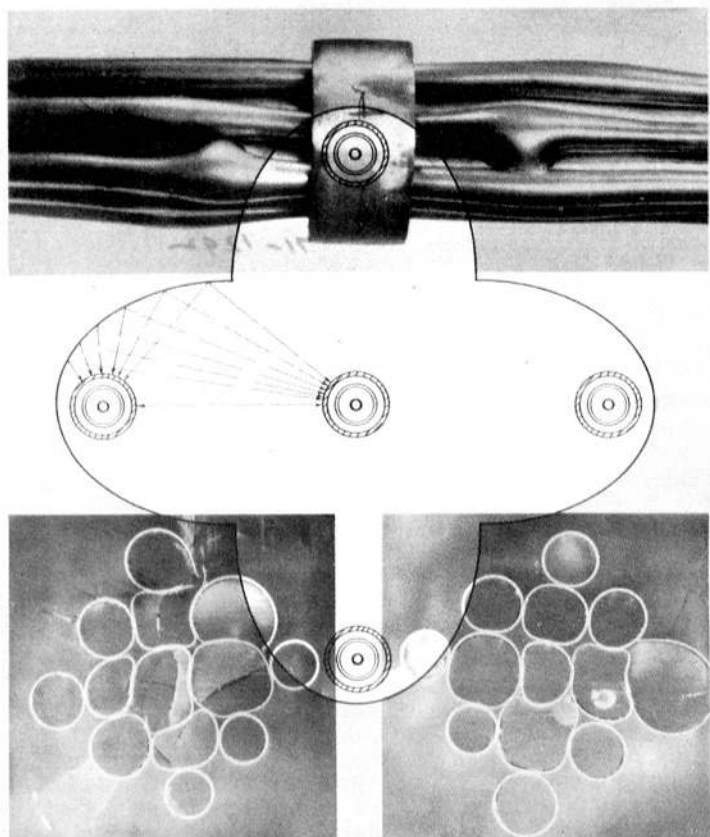


ORIENTATION SESSION—Twenty of the 38 summer employees are shown attending an orientation session. From left, seated, are Pamela Potter, Joseph L. Sexton, Marilyn Carington, Valerie Hazleton, R. K. Underwood, Samuel Harris, Lamar Jones; standing, Dan Johnson, ORGDP Orientation Leader; Charlie Betts, Jr., Charlie Coleman, Gary Atwater, Gene Gallaher, Clyde Anderson, Spencer Anderson, Terry Weaver, Melvin E. Kirk, Randy Allen, John Newsome, Michael P. Farley, Ricky J. Forbes, Felix Carlos Johnson, and John Cruse, Security Orientation Leader. Other summer employees not pictured are John M. Baker, Eleanor A. Barnett, Jerry P. Bovine, Glenn Lee Bowers, Douglas R. Calverly, Stephen K. Combs, Carol M. Crockett, Thomas H. Hunigan, Jr., Judith A. Gorsuch, Daniel N. Hart, Belinda D. Irwin, Richard K. Johnson, Stephen M. Maggart, Robert G. Orrison, Jr., Alton S. Parks, William H. Phillips, David W. Rosser, and Paul T. Williams. Of the 38 summer employees, 15 are co-ops, four pre-coops, 13 YOP's, five summer technicals, and one clerical intern.

Oak Ridge National Laboratory

ORNL Editor Martha Goolsby
extension 3-6421

nuclear technology
CONTINUING NUCLEAR APPLICATIONS & TECHNOLOGY AUGUST 1971



Nuclear Technology Issue Features Oak Ridge Reactor Safety Research

The cover of the August issue of **Nuclear Technology** features work performed at ORNL. A montage of simulated fuel deformations, their cross sections, and a schematic of a furnace in which the experiments are performed represents the work of metallurgist R. D. Waddell Jr. (Metals and Ceramics Division) and that of D. O. Hobson (Metals and Ceramics Division), M. F. Osborne (Reactor Chemistry Division) and G. W. Parker (Reactor Chemistry Division).

The issue is devoted to the subject of nuclear safety, specifically work performed for better understanding of the loss-of-coolant accident, and contains five papers based on research at ORNL. Waddell's paper is entitled "Measurement of Light-Water Reactor Coolant Channel Reduction Arising from Cladding Deformation During a Loss-of-Coolant Accident." The paper by Hobson, Osborne and Parker is "Comparison of Rupture Data from Irradiated Fuel Rods and Unirradiated Cladding."

Other papers are by R. A. Lorenz (Reactor Chemistry Division), Hobson and Parker, "Fuel Rod Failure under Loss-of-Coolant in TREAT," R. M. Carroll (Instrumentation and Controls Division) and Oscar Sisman (Reactor Chemistry Division) "Behavior of Mixed Oxide Fuels as a Function of Temperature and Burnup," and R. D. Baybarz, J. B. Knauer Jr. (Chemical Technology Division) and J. R. Peterson (Chemistry Division consultant) "New Encapsulation Techniques for the Fabrication

of Californium-252 Neutron Sources." TREAT is a reactor test facility at the Laboratory.

Technical coordinator for the magazine's symposium on nuclear safety are P. L. Rittenhouse (Metals and Ceramics Division) and R. A. Dean of Gulf General Atomic. Other authors from Oak Ridge in the issue are John Mihalezo, of the Y-12 Critical Experiments Facility, and P. R. Davis of Idaho Nuclear, a graduate of the Oak Ridge School of Reactor Technology.

WANTED

Rides
Car Pools

RIDE from Chapman Highway area to East Portal, 8:15 a.m. Bobbie Rudd, 3-1481 or 577-2018.

CAR POOL MEMBERS from Hillside, Pennsylvania vicinity to West Portal, Hubert Oliphant, 3-6886 or 483-1549.

JOIN OR FORM CAR POOL from Pleasant Ridge Road near Cumberland Estates. Frank Bruni, 3-6415 or 546-4403.

CAR POOL MEMBERS from Bearden-Papermill Road area to East or South Portal, 8:15 a.m. Ray Pearson, 3-6019 or 588-9949.

RIDER from Holston Hills, Chilhowee Hills, Burlington, East Magnolia area to East Portal, 8:05 a.m. arrival. R. H. Powell, 3-1364 or 524-0447.

CAR POOL MEMBER from UT area to South Portal, 8:15 a.m. Dick Snyder, 3-1922 or 522-0940.

17 GLCA Students In ORNL Research

Seventeen students will arrive at ORNL next week as the second year of a novel research/study program begins here. The students are from colleges in the Great Lakes Colleges Association.

The program will run from September through December 17. During the first two weeks the students are scheduled for the Nuclear Science Course, a concentrated lecture-laboratory program at Oak Ridge Associated Universities. After September 16, the bulk of the students' time will be spent at ORNL.

Research Project

Each student will participate in two courses during his science semester. "An interdisciplinary seminar is planned for all students. It will meet from 8 to 9:15 a.m. Tuesday and Thursday, and will feature such topics as containment and disposal of radioactive material, desalination, chemical profile of man and biological experimentation. ORNL staff members will speak at the seminar sessions. For the second course the student will choose between a junior/senior level physics, biology or chemistry course.

However, the majority of the work will be devoted to a research project. Each will be supervised by an ORNL scientist.

Three professors from the Great Lakes Colleges Association will be accompanying the students to supervise the program and to teach the biology, chemistry and physics courses. They are Ron Winters, Denison University; Al Wohlpart, Kenyon College, and Dennis Gaswick, Albion College.

Colleges Represented

Students participating in the seminar are from: Albion College—James Allen, Gordon Bryce and Tae-Bong Paik; Denison University—John Hammond and Andrew St. James; DePauw University—David Ahlgren, John Dwyer, John Metcalf, Frank Shirley and Suzanne Steubs; Earlham College—Benjamin Fieselmann, George Neumann, Wilson Palmer and Alice Trickler; Hope College—Jane Bos and H. M. Ducharme, Jr. Noel Barbulesco, Kalamazoo College, will be joining the semester for a second year.

ORNL's Papers Listed For ACS Annual Meet

A number of ORNL staff members will be participating in the American Chemical Society's Annual Meeting to be held September 13-17 in Washington, D. C.

G. D. O'Kelley, (Chemistry Division), is chairman of the Division of Nuclear Chemistry and Technology and will be presiding during a session of that meeting.

Some 16 papers will be presented by staff members. They are: "Influence of Fragment Shells in Nuclear Fission," H. W. Schmitt, Physics Division; "Experimental Studies of Double Barrier and Fragment Shell Effects in Fission," Franz Plasil, Physics Division; "Coulomb Excitation of Nuclei," P. H. Stelson; "Heavy Ion Coulomb Excitation of Transuranium Nuclei," N. R. Johnson, E. Eichler, R. O. Sayer, C. E. Bemis, all of Chemistry Division; D. Hensley, Physics Division; and M. Schmorak, Nuclear Data Project; "HTGR Fuel Particles Derived from Ion-Exchange Resins," J. L. Scott, J. M. Leitnaker and C. B. Pollock, all of Metals and Ceramics Division;

"Studies of (Heavy Ion, α xn) Reactions on Actinide Targets," R. L. Hahn, P. F. Dittner, K. S. Toth, O. L. Keller, all of Physics Division; "Interactions of Protons (<85 MeV) with ^{231}Pa and ^{232}Th ," R. L. Hahn, Chemistry Division; K. S. Toth, Physics Division; "The Chemical Thermodynamic Properties of Uranium Mononitride," J. M. Leitnaker, Metals and Ceramics Division; "Fuel Behavior in the Molten Salt Reactor Experiment," S. S. Kirsli, E. L. Compere, R. E. Thoma and W. R. Grimes, Reactor Chemistry Division;

"The Dioxide of Long-Lived Curium-248," J. R. Peterson, ORNL consultant; "Polyelectrolytes in Aqueous Solution—Filtration, Hyperfiltration and Dynamic Membranes," J. S. Johnson Jr., Chemistry Division; "Electrical Conductances and Ionization Behavior of Sodium Chloride in Dioxane-Water Solutions at 300°C and Pressures to 4,000 Bars" and "Solubility and Association

Equilibria of Calcium Sulfate at 25°C in Several Aqueous Mixed-Electrolyte Salt System," L. B. Yeatts and W. L. Marshall, Reactor Chemistry Division; "Potentiometric Measurement of Dissociation of Water in KCl Solutions Up to 300°C" and "A High-Temperature Flowing EMF Cell," F. H. Sweeton, R. C. Messmer and C. E. Baes Jr., all of Reactor Chemistry Division; "Thermodynamics of LiF-BeF₂ Mixtures from EMF Measurements of Concentration Cells," D. D. Sood, K. A. Romberger and Jerry Braunstein, all of Reactor Chemistry Division.

97733



George M. Watson

'His Ability To Help Was Legendary ...'

Sympathy to the family and friends of George M. Watson, Associate Director of Reactor Chemistry Division who died August 24 while vacationing in Mexico City.

Mr. Watson joined the ORNL staff in 1955. Previously he was professor of Chemistry at Texas A&M University.

Mr. Watson had been ill for three years with a deteriorative kidney disease and had sustained his life by use of a kidney dialysis machine which he designed. He also became interested in younger patients who had the same problem and spent much of his time encouraging them to use the technically difficult machines.

Warren Grimes, director of Reactor Chemistry Division said of Mr. Watson: "He was a warm-hearted and vibrant man whose willingness and ability to help his fellowman was legendary. He was respected and admired, both as a man and as a scientist, by all who knew him. We who had watched his courageous fight with his disease knew his life was ebbing, but nothing can deaden the shock of his untimely death. He was a magnificent man and the laboratory, as well as the scientific community, has suffered a severe loss at his passing."

Mr. Watson is survived by his wife and son George of Knoxville, two daughters, Mrs. Maribel W. Cardosa of English Mountain and Mary Margaret Solis of Mexico City, and two grandchildren.

Funeral services and burial were held August 25 in Mexico City which was his family home.

Patents Received

Marion M. Satterfield for a "Nonblocking Preamplifier."

Norman G. Anderson for a "Multistation Analytical Photometer and Method of Use."

August Retirements

1738-71



Mae Ashworth

Mae Ashworth is retiring this month. She has been a record clerk in Information Division for 21 years of company service.

Herbert Clowers is retiring from Plant and Equipment Division where he has been a painter for 24 years of company service.

45070



Korsmeyer

1732-71



Clowers

Richard Korsmeyer is retiring from Reactor Division where he is a research engineer. He has 27 years of company service.

Glenn N. McNabb is retiring from Laboratory Protection Division where he was a guard for 28 years of company service.

15813



Olson

1735-71



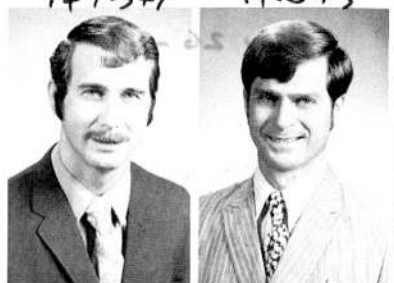
Sexton

Elmer Olson is retiring from his position as development engineer in Physics Division after 28 years as an ORNL staff member.

Doc L. Sexton is retiring from Plant and Equipment Division where he has been an electrician for 18 years of company service.

These employees total 146 years of loyal company service. Congratulations and Best Wishes!

OR Scientists Give Papers At Washington ACS Meet



J. B. Condon C. E. Holcombe



R. E. Clausing R. A. Strehlow

Two technical papers describing chemical research performed at the Oak Ridge Y-12 Plant will be presented at the American Chemical Society in Washington, D. C., September 12-17.

The papers are "An Instrument for Measuring the Hydrogen Content in Metals," by G. L. Powell, J. B. Condon and R. A. Strehlow, and "The Surface Structure of Lithium Hydride," by Powell, C. E. Holcombe, Jr. and R. E. Clausing. Clausing and Strehlow are staff members at Oak Ridge National Laboratory.

Information on both papers was obtained in support of U.S. Atomic Energy Commission programs here.

The young are slaves to dreams; the old servants of regrets.

SAFETY SCOREBOARD

The Y-12 Plant Has Operated 47 Days Or 1,729,000 Man-Hours (Unofficial Estimate) Through August 29 Without A Disabling Injury SAFETY AT HOME, AT WORK, AT PLAY

Company Service

Congratulations to several "Old-Timers," as well as some other Y-12ers approaching veteran status.

37 YEARS

David W. Harrigan.

35 YEARS

Tennyson I. Sloan.

20 YEARS

Merwyn Sanders, Vernon C. Black, John W. Nelson, Donald R. Deathridge, Billy B. Stone, Clyde R. Sharp, Hubert L. Wigginton, Louis M. Fitzgerald, Ward E. Wampler, Jr., James H. Rowan, Rufus E. Webb, Earl L. Price, Floyd R. Mack, Kenneth E. McCulley, Paul A. Fritts, Mary M. Park, Clyde J. Price, Wilmet S. Milligan, John Thomson, Thomas E. Ford, and Katherine M. Griffith.

Thorium Contract Goes To Two Tennessee Firms

Two Tennessee companies have been awarded contracts totaling \$363,400 by the Nuclear Division, Union Carbide Corporation, for the processing of thorium for use in Atomic Energy Commission production and development programs.

Nuclear Chemicals and Metals Company of Huntsville was awarded a \$260,400 contract to provide 30,000 pounds of thorium pellets, and Tennessee Nuclear Company of Jonesboro received a \$103,000 contract to supply an additional 10,000 pounds. Both contracts were awarded on the basis of competitive proposals.

Thorium compounds are provided by the Atomic Energy Commission to the companies for processing into pellets. Under the terms of the contracts, delivery of the pellets is scheduled to begin in November of this year and be completed by June, 1972.

Y-12 RETIREMENTS

Five Y-12ers retired August 1, with more than 100 combined years of service with Union Carbide Corporation.

Robert R. Fowler, Facilities Engineering; Andrew C. Hutchins, Civil and Architectural Engineering; Herschel L. Hixon, Machine Maintenance; Charles O. Johnson, Research Services; and Ralph Ledford, Area Five Maintenance, retired.

Good wishes!

L. B. Huddleston Victim Of Apparent Heart Attack

Lawrence B. Huddleston, Y-12's Materials and Services, died August 23 from an apparent heart attack. He came to Y-12 January 29, 1947. He attended Tennessee Wesleyan College, where he played football, and was a veteran of the U.S. Army.



Survivors include his wife, Mrs. Ruth Sisson Huddleston; daughter, Karen; son Lanny, all at the Huddleston home, at Route 1, Oliver Springs; sisters, Mrs. Lola Hewitt, Lenoir City; Mrs. James Shepherd, Miss Ellen Huddleston, Mrs. Myrtle Caves, all of Knoxville; brothers, Charles and Artie Huddleston, both of Knoxville.

Funeral services were held at the First Baptist Church, Oliver Springs, with the pastor, Larry E. Duke, officiating. Interment followed in the Anderson Memorial Garden.



Riders wanted from Bearden section, Knoxville, to North or Central Portal, straight day. Al Brown, plant phone 3-5790, home phone Knoxville 584-1273.

Carpool member wanted from Kingston to any portal, straight day. Home phone Kingston 376-7849 (evenings only).

Ride wanted from Maryville-Alcoa area to North or Central Portal, straight day. E. L. Wright, plant phone 3-5321, home phone Maryville 983-2134.

Ride wanted from Dixie-Lee Junction, to any portal, straight day. Loren Carey, plant phone 3-7763, home phone Lenoir City 986-3152.

Ride wanted from 342 West Outer Drive, Oak Ridge, to Bear Creek Portal, straight day. Joyce Irving, plant phone 3-7724, home phone Oak Ridge 483-3479.

Shelley Williams Weds In Circle Park Ceremony

Circle Park on The University of Tennessee campus in Knoxville was the scene of the marriage of Miss Shelley Williams to Bruce R. Dodds. The July 4 rites were performed by the Rev. Lawrence Daniels.

The bride is the daughter of Mr. and Mrs. W. E. Williams, 451 East Drive, Oak Ridge. Her father is on the General Staff. She also has a brother William E. Williams, III, in Y-12's Employment Department.) The bridegroom is the son of Mr. and Mrs. Bruce D. Dodds, Hollywood, Fla.

Miss Sarah Holcomb, Lexington, Tenn., and Mark A. Ross, Hollywood, Fla., were the couple's only attendants.

Bob Wright, son of H. W. Wright, ORNL, played guitar music for the wedding.

The couple is at home at 708 19th Street, Knoxville, where the bride is a rising senior in commercial art at UT. The bridegroom also attended UT.

Oak Ridge Y-12 Plant

Y-12 Plant Editor James A. Young
extension 3-7100



PRE-RETIREMENT COUNSELING — T. A. Burkett, Y-12's Retirement Counselor, chats with Mr. and Mrs. Fred Henry, relative to Y-12er Henry's eventual retirement. Employees are encouraged to bring their spouses in for pre-retirement counseling.

Y-12 Retirement Counseling Begins at Ages 55 and Older

You'd be surprised at the number of people who never think of retirement until the time comes! The inexorable march of time is as sure as those two old hats . . . death and taxes, and retirement eventually catches up with us all, unless the other, less desirable alternative, gets us first.

Union Carbide's interest in employees does not stop at their 65th birthday. With planning and preparation, the company believes we can all live longer, fuller and more enjoyable lives, full of dignity and usefulness. First off, it takes planning, a lot of planning.

Thomas A. Burkett and Robert T. Cantrell, both old-time Carbiders themselves (and both experienced in personnel work) are presently counseling with persons 55 and above concerning problems peculiar to retirement.

Retirement, naturally, means different things to different people. Some prefer to stay in established molds, living out their lives amid familiar surroundings and old friends. Others prefer to move to Florida or to the mountains. Some want to live in town, others want to live in the country.

But there are common problems to all . . . problems of expense, lessened incomes, medical care, leisure hours, etc., etc. . . the list lengthens. This is where retirement counseling comes in.

How much will I draw in company benefits? How much social security will I draw? Will my wife be able to draw anything in case of my death? What about hospitalization insurance? Life insurance? How much will Medicare cover?

Retirement counselors not only hold joint meetings, they sit down with individual employees and map out individual programs. Employees are encouraged to bring their spouses in for the interview so that both will understand fully what they may expect in their mature years.

During the counseling meetings some excellent films are shown to employees. Among them are "The Best is Yet To Be," "The Far Side

of the Moon," and "The Time of Your Life."

The company wholeheartedly endorses the efforts of the American Association of Retired Persons and lends its support to the local chapters (a Roane County chapter was organized recently with 77 charter members!). Many ex-Carbiders are officials in the expanding Oak Ridge chapter. Other chapters are springing up in neighborhood communities.

(The AARP's magazine *Dynamic Living* is given to each employee as he reaches the age of 59, and his subscription continues on into his retirement. The magazine is written for persons who are planning retirement and centers around their interests and problems.)

With that extra 200 hours a month you are going to have added to your life, you can make something of it. Or you can sit around and complain about taxes and ailments. Much of it depends on you, but Retirement Counseling is certainly a help in the right direction. Y-12's counselors believe there is more to life than taxes and complaints!

Sims Son Breaks Record In Physical Fitness Test

Alan Sims recently completed basic training in the Army National Guards at Ft. Polk, La. Upon completing the training he was promoted to E-2.

Sims won a trophy for the highest in the company of 300 men in competition for the basic physical fitness test. He broke the company record for the total number of points on physical fitness.



E/2 Sims Young Sims is serving with Company A, Fourth Battalion at Fort Polk. His father is in Y-12's Maintenance Division.



Mr. and Mrs. Bruce R. Dodds

Paducah Gaseous Diffusion Plant

Paducah Editor Keith Bryant
extension 369

Local Red Cross Helps Where Help Is Needed!

By C. O. Hayes

The McCracken County Red Cross Chapter was organized in April of 1917. The first fund drive held then had a goal of \$25,000, but went over the top, collecting a total of \$42,000!

McCracken is only one of the 3,300 chapters scattered over the United States.

The Red Cross is a voluntary organization charged by the Congress of the United States with the responsibility for serving the members of the Armed Forces and extending relief to victims of disaster. Both of these services are concerned with the meeting of emergency needs.

The local chapter, as do all other chapters in the USA, has these two programs: service to military families and disaster service. It also sponsored other programs: water safety, first aid, nursing services, production, and Red Cross youth.

WHERE DO THE FUNDS THAT SUPPORT THE RED CROSS COME FROM? They come entirely from contributions in the Paducah area . . . from people such as Union Carbide employees at the Paducah Plant.

'Always There'

Sixty percent of the money the chapter collects will be used to provide Red Cross services to the people of Paducah and McCracken County. The rest will go to the national organization as the chapter's allotted share of the total expenditures of the American National Red Cross. In effect, however, if not in actual fact, these national funds come back home to the families, friends and neighbors of the contributors.

These nationally - allotted funds help the Red Cross to be "always there" to: aid servicemen and their dependents at home, across the country and around the world; provide emergency care for disaster victims and help families recover losses caused by storms, fires and floods; carry on its growing blood collection and distribution program, provide life-saving blood products and expand research into new medical uses for blood; train American families in home nursing, first aid and water safety; help youth gain, by serving others through the Red Cross, the experience and training that will equip them to become the leaders of the community and nation.

Never Any Charges

Under service to military families, serving the men and women of the Armed Forces is one of the primary functions of the McCracken County chapter. On all major military bases, here and in 29 countries around the world, Red Cross field directors and assistants are stationed. These trained men work and live on the base and are prepared to serve the serviceman in literally any kind of emergency, to counsel him toward the best solution to his difficulty. A world-wide communications system links staff members of the 3,300 local chapters, including our own. They can ask the chapter in the soldier's home county for a welfare report on his



C. O. Hayes

mother or get a doctor's statement regarding the condition of the man's expectant wife. With this information, the man and his commanding officer can determine whether emergency leave should be granted.

And there is never, under any circumstances, any charge for the services McCracken County chapter renders.

Elmer Breider, an employee here at Paducah, is chairman of the water safety program. Each spring, senior lifesaving classes are taught at the Broadway Methodist Church pool, and usually the first phase of the instructor course in water safety is taught. These classes are all taught by certified Red Cross water safety instructors, and the records are all kept by the local chapter. For the second phase, the group is transferred to the Murray University pool.

'Learn-to-Swim'

Each summer, 1,000 children are registered for the Learn-to-Swim program held at Noble Park Pool during July. Fifteen qualified volunteer water safety instructors carry on the program, along with guidance from the chapter staff.

For 89 years the American Red Cross has been able to carry out its responsibility because the American people have supplied the volunteers and the funds. The McCracken Chapter is grateful to the people at Union Carbide for their support and generosity which help make these programs possible.

Paducahans Make Plans For UK Basketball Games

Paducah Plant employees and their families will have an opportunity to attend the December 11 University of Kentucky, University of Indiana, and the December 28 University of Kentucky, Notre Dame basketball games at Freedom Hall in Louisville.

Family groups and individual buses will be available. Transportation and game tickets will cost \$12.50 per person. The bus will leave Paducah for Louisville at 12 noon, and leave Freedom Hall for Paducah at 12 midnight on the days of the games.

Those wishing to attend should contact extension Bell 318, or Charles E. Moore, Paducah Bank, telephone 443-6424 immediately so that a sufficient number of tickets may be obtained.



CARPOOL CHARLIE

Ole Carpool Charlie's Sex column has been missing from the Paducah Plant section of the Nuclear Division News for a very good reason. Charlie finally overloaded his system with the sayings and witticisms of his carpool members and had to retire to Western Baptist Hospital for repairs.

His many friends (?) have assured him that this repair job is minor, it not being done to them, but Carpool remains unconvinced. He contends that the removal of a splinter from his delicate "pinky" is MAJOR, and what that man in the green pajamas and skull cap did to him was far and away more than the removal of a two-by-four from his digit!

Charlie is well on his way to recovery, thank you, and the many members of his Carpool are looking forward to his return.

By the way, for the uninitiated, our Carpool Charlie is Joe White.

Bowlers to Attempt Match Point Scores

The Men's Bowling League gets underway today, September 2, with a new look and a new outlook.

The old-timers in the league will try out a new Match Point Scoring System that includes team and head-to-head competition each Thursday at 5:45 p.m., except for six Mondays that will be used to make up for holidays. This will cause the 35-week season to end on March 9, 1972.

The bowling committee includes J. K. Luton, Leroy Hall, Charles Burdette, Rob Riepe and Roby Kight. Officers are Riepe, president; Kight, vice president; Hall and Jack Weglarz, league representatives.

Team captains are Jim Brown, Jim Ratliff, Weglarz, Bill Kinsey, Hall, Lim Renfron, A. K. Freels and Riepe.

The league is always on the lookout for new members and anyone interested should get in touch with a member of the league, a team captain or Recreation, PAX 335.

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'Count, Compare, Then Share' Theme of Paducah UF Appeal

By MARY E. PFOST

While discussing the United Appeal slogan, "Count, Compare . . . Then Share Your Blessings," in a recent interview, Gus Legeay related three personal big blessings as they occurred in his life. They're health; then education; and next, a good family life.

First health, Gus says, because he survived the tragic '37 flood with the Red Cross' help of typhoid shots. Life itself, because he and his sisters survived the depression year of the mid-30's without a father's help.

He mentioned education next because somebody cared about meeting one of life's needs. Gus received a scholarship — the J. Matthew Carney — to Notre Dame.

Then Gus named a good family life because his wife, Marion; three sons: Mike, Gus Jr., and Steve; and grandson, David, have been and are his greatest blessings in life.

'Sharing With Others'

After talking about blessings in life, and keeping to our United Appeal theme, we talked about comparing our condition in life. Gus emphasized that by comparing, then sharing, our resources, we can take personal responsibility in meeting the many needs of the less fortunate.

Further, Gus' philosophy is "sharing with others — to the best of my extent — certainly in the spirit of our democracy. It's Americanism, the spirit of this country's founders when our Declaration of Independence granted the right to the pursuit of happiness." And he believes that sharing is one of the many ways we can achieve happiness — or satisfaction of the soul — through helping our fellow man.

Salvation Army Cited

Since his father died when he was nine years old, Gus realizes a boy needs a male figure to talk to. And he likes the Boy Scouts Boypower '76 program geared to the lower income and minority groups to help a boy develop and grow the right way.

Gus talked about the work of the Salvation Army. He remembers the work the Salvation Army did after the big flood. "Here's a

UCC Sales Steady For the 2nd Quarter

Union Carbide Corporation sales in the second quarter were \$770.9 million, compared with \$769.5 million for the corresponding 1970 quarter and \$748.1 million in the first quarter of this year. Net income for the quarter was \$40.5 million, or 67 cents a share. This compares with \$42.0 million, or 70 cents a share, in the second quarter a year ago. In the first quarter of 1971, the corporation earned \$43.7 million, or 72 cents a share.

Sales and earnings during the first six months of 1971 were very close to those in last year's first half despite the continued sluggishness of the U. S. economy. Chairman of the Board F. Perry Wilson noted in reporting results. First-half sales were \$1,519.0 million, two percent above sales of \$1,495.3 million for the corresponding period in 1970. The corporation's net income was \$84.2 million, or \$1.39 a share. In last year's first half, Union Carbide earned \$84.6 million, equivalent to \$1.40 a share.



Gus Legeay

band of Christians really doing something — the religious, social, and charitable work of a church — in destitute places. The least I feel we can do is support this faithful Army in their improvement programs of hospitals, unwed mothers, low cost lodging, boys' clubs, and families, just to name a few."

He also pointed to the many services of the Community Mental Health program. At the center, anyone who has an acute alcohol problem, a drug problem, personal conflict, or emotional situation too great to cope with, can find help.

USO Remembered

Gus added, "I think the Family Service is a marvelous agency in the United Appeal through which we can share life." Gus thinks we should look with compassion upon those that are hurt, especially upon the problems that are brought to those that are innocent.

From Gus' experiences in the Navy during World War II, he is acquainted with the work of the USO and its slogan, "There Is No USO Unless You Help." He is just as concerned about our servicemen as he is about the thousands of people locally. And even though he is an extremely busy person, Gus is pleased to serve as our United Appeal chairman. He is especially pleased, too, that the Paducah plant's U. A. Committee chose the slogan, "Count, Compare . . . Then Share Your Blessings in Life." Gus Legeay thinks collectively we can do just that!

PIPE PROTECTION

Installing hot and cold water lines together to service multi-family and commercial buildings can now be easier, quicker, and cheaper. Using rigid urethane foam, poured-in-place from a mobile factory, workmen can insulate pipe in nearly any kind of weather, most anywhere, and on short notice. In addition to its unexcelled insulating properties, the foam provides good moisture resistance, is impervious to corrosive elements found normally underground, and has excellent adhesive properties.

1751-71

Cancer Immunity

By T. A. LINCOLN, M.D.

Two primary deficiencies frustrate all cancer therapists. They have no good way to find hidden cancers early enough to eradicate them locally before they spread and no way to locate or treat cancer cells which have already spread (metastasized) to distant locations.



Dr. Lincoln

Ever since 1957, when Dr. C. M. Southam and his associates at the Sloan-Kettering Institute for Cancer Research in New York City conclusively demonstrated that man can react against his own cancer, biologists and cancer specialists have struggled to understand the immune response to cancer.

Much indirect evidence is available. Cancer is more common in the very young and old. Early in life, the immune system is maturing and unable to recognize a malignant cell as foreign and one which should be destroyed. In the old, the immune system loses much of its competence and surveillance and reactivity decline.

Immune Response

Many cases are on record where a patient with widespread cancer seems to reach some type of biological equilibrium with his cancer and survives for a prolonged period. This process is thought to be some type of immune reaction.

With the increasing use of methods to suppress the immune response (radiation, antilymphocyte serum and immunosuppressive drugs, such as azathioprine and corticosteroids), an increased incidence of cancer has been seen in recipients. Such treatment was first used to suppress the rejection reaction following organ transplantation, but more recently it has been used to treat a wide variety of autoimmune diseases. There are also several rare diseases in which there is an inborn immunological deficiency and victims are considerably more vulnerable to cancer.

The lymphocyte plays a fundamental role in the body's immune reaction against newly-appearing cancer cells. The lymphocytes are white blood cells formed in the bone marrow. These cells leave the blood and pass into the lymph nodes or "glands" located throughout the body. A given group of circulating lymphocytes spends only about ten hours in any one node and then return to the blood lymphocyte pool. The lymph nodes drain lymph fluid from all surrounding tissues, so any cancer cells or products from their metabolism pass into them. Thus, the recirculating lymphocyte pool allows an exceptionally large number of cells to be exposed to any malignant or other toxic material which enters the node.

New Detection Test

The immunological reaction to cancer cells takes place on three fronts. First, lymphocytes produce antibodies consisting of immunoglobulin molecules of a special shape which can unite with antigens and immobilize or destroy them. Second, lymphocytes themselves attack cancer cells. It is this cellular attack which is by far the most important. For example, breast cancers which pathologically show heavy infiltration with lymphocytes have a much more favorable prognosis. Third, special cells called phagocytes, which are really scavengers, engulf and destroy the weakened cancer cells.

There is now direct evidence that human patients respond immunologically to their own tumors. Since cancers are often poor antigens and the antibody response may be weak, detecting them can be exceedingly difficult. By using many ingenious techniques, better ways are being found. The cancer test which is currently causing the most excitement is the carcinoembryonic antigen (CEA) found in cancers of the digestive tract, particularly the colon. This test, or a modification of it, will probably be in widespread use in a few years. Others will follow.

Once a screening test is found to be positive, there is the problem of finding where the tumor is located. Usual diagnostic techniques are too crude to detect extremely early tumors. Better methods will have to be developed.

Cell Immunization

Stimulating the immune response to fight existing cancers has been used with some success. The immunological



THEY'RE NO. 1. With a regular season record of 19-1, the Computes entered tournament play against the three toughest teams and emerged No. 1. Manager Bob Quinby pointed out their success with "they're all good players and some players like Bob Allred and Marv Anderson make a lot of hits, especially home runs." Sitting (l-r) are Marv Anderson, Arnold Beets, Dave Laughlin, Ernie Murphy, Jim Gardner and Tom Gardiner. Second row (l-r) Bob Allred, Charlie Thompson and Chuck Ray. Third row (l-r) Ken Foust, John Amburgy, Bob Quinby, Ned Wolfenbarger and Holly Normand. Young Rob Quinby sits in front of the group. He and the other young "team members" are the biggest rooters. Not pictured are Gene Arrington, Larry Finch, and Ronnie Smith. Look for them around basketball time. They're the team to beat then too.



SPORTS NOTES



ALL-CARBIDE

The beach at Clark Center Recreation Park will close at the end of the day on Labor Day, September 6. Lifeguards will not be available after that day. It is requested that employees and their families not swim at the Park after September 6.

Eleven Carbide bowling leagues will soon begin season play at the Ark Lanes. Anyone who is not

yet on a team but who wishes to play should contact the Recreation Office, 3-6723, for placement on a league team.

Basketball, volleyball and table tennis play will soon begin. Teams should begin to organize. Entry dates will be announced later.

In the Carbide Mixed League Bowling the Oops team is still out front. At News deadline they had a 40½-7½ record. Following them in the standings are Pinsetters, Hot Dogs, We-Un's, Kings and Queens, Dad-Blamits, Big Ten, Pin Spinners, Carry-Outs and the Sleepers.

Methods which have been tried include some type of active immunization with cells or cell extracts of the patient's own tumor or from tumors of similar types from other patients. It might be possible to actively immunize a relative to the patient's cancer cells and then transfer some of the immunity passively using lymphocytes or lymphocyte extracts. It may be possible to transfer antibodies, even though they are not as effective as lymphocytes and could be dangerous, since they occasionally cause enhanced growth.

It may be possible to stimulate general immunological reactivity, using immunoadjuvants. Some interesting work using BCG, a tuberculosis vaccine, has been reported. The best results with immunotherapy have occurred with multiple skin cancers, where a delayed hypersensitivity response using dinitrochlorobenzene has been used. The most attractive use of immunotherapy is for a follow-up following surgery to mop up the last remaining cells hidden in some undetected metastasis.

Clinical attempts at immunotherapy have been sufficiently successful to justify a vigorous research effort. For this, more generous financial support will be needed.

Y-12—GOLF

Another Y-12er has entered the magic circle of "hole-in-ones." Ralph S. "Bud" Leete blasted a ball at Lakeside Golf Course in Kingston August 9 on the No. 7 hole.

The 165-yard, three-par hole proved nothing to Bud, as Jerry Brown and Danny Rowan can witness. It dropped right in! Nothing to it.

The Bowers-Rowan team are at least 11 points out in front of the pack in South Hills golf play. The Parker-Parrott team with 69 points are their nearest competitors.



Emmett L. Moore

Recreation Aide

Helping coordinate Recreation activities around the three Oak Ridge facilities will be Emmett L. Moore who was named Recreation Director in Y-12 in late 1970. He will work with E. W. Whitfield, recently named recreation coordinator for ORNL, Y-12 and ORG-DP.

Moore, a veteran of the U. S. Marine Corps, worked with Tennessee Eastman, Kingsport; and Marion Bottling Co., Marion, Va., and came here February 16, 1947.

The Moores live at 211 North Purdue Ave., Oak Ridge. Mrs. Moore is the former Virginia Johnstone. They have a son David at home, and two married daughters, and three other sons away from home.

Winter sports are high on the priority list right now with summer almost gone, Moore said. They have already started plans for a Christmas party for Carbide children in the area, and more intra-plant activities, including an All-Carbide Bowling Tournament this winter.

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Aluminum Recycle Metals Meet Topic

The Oak Ridge Chapter of the American Society for Metals will hold its next meeting at the Oak Ridge Country Club, September 15. Walter Malby of the Aluminum Company of America will speak on "Yes, We Can," a description of ALCOA's aluminum recycling program. His talk will



include a film of the same title. All visitors are welcome. Malby began his career with ALCOA in 1936 at the Edgewater Works in New Jersey. He joined ALCOA's New York sales staff in 1944 and remained in sales until 1947. In 1947 he returned to the Fabrication Division of Davenport Works. He has since served as Fabrication Manager of both the Warrick Indiana and Australia Works. At the present time he is Projects Coordinator of Beverage Systems Sales and is deeply involved in the recycling of aluminum beverage cans.

The meeting will be a dinner meeting which will consist of a social hour and buffet starting at 6:15 p.m. followed by the technical talk at 8 p.m. Total cost for the evening will be \$3. Any non-member interested in attending the buffet should make reservations with C. E. Weaver, 3-9626.

AICHE Seminar

(Continued from Page 1)
Term Considerations for Non-Renewable Resources."

Wednesday, September 15's sessions will explore the relationship of the engineer to his own professional organizations, and will feature a talk by Lloyd Jones, Y-12; and F. S. Patton, ORGDP, on "The Professional Society and the Individual Engineer," and Daryl Armentrout, Tennessee Valley Authority, on "The Engineering Union and the Individual Engineer."

A registration fee of \$3 for all three nights will be charged or \$1.50 for each individual session. Questions concerning the program should be directed to Kent A. Williams, symposium chairman and continuing education director of the local AICHE chapter, extension 3-9314.

Fall Quarter Courses Set For September Openings

Educational Assistance people have advised that classes begin in the University of Tennessee Evening School Thursday, September 23, with registration listed at 5:15 p.m. to 8 p.m., September 20, 21 and 22. Fees are payable at the time of registration.

Classes in the Adult Education program in Oak Ridge begin September 27 with registration September 20-24. The quarter ends on December 3 in the AEP.

Maithon underground hydroelectric plant in India and was project sponsor for the 700 MW Nare underground hydroelectric project in Colombia.

He will review the development and growing use of underground facilities for vital installations, both here and abroad, including nuclear power plants.



BOARD OF DIRECTORS—The East Tennessee Chapter of the American Records Management Association named the above Nuclear Division men to its board of directors, from left, Lester A. Meyers, ORNL; Nat T. Bray, ORNL; and William C. Myers, ORGDP. Floyd Beets, AEC, was not present for the picture.



RECORDS GROUP LEADERS—From left are R. L. Green, president, general accounting; Evelyn G. Cole, secretary, ORGDP, and Wilburn D. Minter, treasurer, Y-12. Kenneth B. McNabb, vice president, Y-12, was not present for the photograph.

Green Elected

Carbide Leaders Initiate New Records Management Group

Nuclear Division employees have played a major role in organizing a new and long-awaited chapter of the American Records Management Association.

According to R. L. Green (General Accounting Division), the newly elected president, the local chapter will enable those in records management "to share common problems and exchange professional knowledge and experiences" with resulting benefits for all members and companies represented.

The new nonprofit organization is open to all area workers in the field of records management, which Green defines as the functions of management, business operations, and education which are concerned with the creation, protection, retention, and retrieval of records.

"ARMA was founded nationally in 1956," he said, "to promote interest in records management, to enlarge the views and scope of those in the field, and to provide a source of basic information for coordinating research and developing standards for those in records management." It has now grown to include nine regions and more than 35 chapters in the United States and Canada.

Nuclear Division leaders assisting Green in organizing the Oak

Ridge Chapter were Y-12's C. H. Roddy, K. B. McNabb, and W. D. Minter; ORNL's N. T. Bray; and ORGDP's W. C. Myers.

The first local meeting was held in April, when ARMA national president Donald F. Evans visited Oak Ridge and spoke to the new organization. Evans is manager of the Records Center for the Union 76 Division of the Union Oil Co. of California.

Local chapter officers are Green, president; McNabb, vice president; Mrs. Evelyn Cole (ORGDP), secretary; and Minter, treasurer. Serving on the Board of Directors are Bray and Tom Wonterek (City of Alcoa), Floyd Beets (AEC), and L. A. Myers (ORNL).

Future chapter meetings will be held on the second Tuesday of each month and are open to those interested in learning about the new organization. Those interested in more information should contact any of the new officers.

DANGEROUS HOURS

Nearly half of all auto deaths and injuries occur on weekends, and well over 50 percent of all highway deaths occur between 6 p.m. and 6 a.m. Saturday proved the deadliest day of the week during 1970.

CALENDAR OF EVENTS



TECHNICAL September 8

Metals and Ceramics Division Seminar: "ORNL Desalination Program," R. P. Hammond. East Auditorium, Building 4500N, 2:30 p.m.

September 9

Oak Ridge Chapter of the Tennessee Chapter of Professional Engineers dinner, 7:30 p.m., Oak Ridge Country Club. Honoring 27 newly licensed professional engineers from Union Carbide.

September 10

Seminar for Career Secretaries: "Interpersonal Relations," Robert W. Carney, Georgia Institute of Technology; "Communications in a Productive Environment," W. S. Akers, Jr., Y-12 Plant. Oak Ridge Civic Center, 12:30 p.m.

September 15

Oak Ridge Chapter of American Society for Metals: "Yes, We Can," Walter Malby, Aluminum Company of America. Oak Ridge Country Club. Social hour and dinner, 6:15; technical meeting 8 p.m. Visitors welcome.

September 16

Nuclear Safety Program: "Underground Siting of Nuclear Power Plants," Franklyn C. Rogers, Harza Engineering Company. East Auditorium, Building 4500N, 9:15 a.m.

September 22

Metals and Ceramics Division Seminar: "Electromagnetic Induction Methods for Material Evaluation," C. V. Dodd. East Auditorium, Building 4500N, 2:30 p.m.

COMMUNITY

Oak Ridge Arts Festival

September 11 — An evening of country music.

September 14-15 — Special children's programs by a troupe of puppets, The Harleton Players, Robertsville Junior High School, two performances each day.

September 16 — A program of

songs by Oak Ridge's "Sweet Adelines" at the Civic Center.

September 18 — An evening of folk and rock music. Also sidewalk art show, front of Miller's Department Store, Downtown, Oak Ridge.

September 21-22 — Sleight of hand tricks by magician E. A. Lockart, at the Civic Center.

September 24 — Classical guitarist Jesus Silva performs at the Oak Ridge Playhouse.

PADUCAH September 24

CPS Presentation Dinner honoring three new Certified Professional Secretaries — Mrs. Ardyce Ballard, Mrs. Betty Green, and Mrs. Mary Ellen Pfost. Paducah Country Club, 7 p.m.

Underground Sites Topic For Nuclear Safety Group

Franklyn C. Rogers, vice president of the Harza Engineering Company, will speak on the "Underground Siting of Nuclear Power Plants" at the next Nuclear Safety Program. It is set for Thursday, September 16, in the East Auditorium of the 4500 building at ORNL. The seminar will begin at 9:15 a.m.



F. C. Rogers

Rogers, a graduate of Purdue and Columbia Universities, has participated or directed some 18 major power oriented projects and 13 non-power water oriented projects in the United States and overseas. He was resident engineer during the design and engineering of the construction of the